II. Listing of the Claims

Please cancel Claims 1-19.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-19 (Cancelled)

20. (New) A sewer network flow analysis system, comprising:

a processor;

a memory in communication with the processor;

a rain gauge in communication with the processor; and

a flow monitor in communication with the processor,

the processor being programmed to accept, from the rain gauge, data representative of a first measured rain quantity at a first location over a first time interval that is less than a twenty-four-hour period;

the processor being further programmed to generate a plurality of possible rain responses, each possible rain response comprising a distribution of possible flow volumes at a second location over a second time interval, the second time interval having a duration that is longer than a duration of the first time interval;

the flow monitor being configured to measure a flow volume distribution at the second location over the second time interval;

wherein the processor is further programmed to compare the plurality of possible rain responses to the measured flow volume distribution, and to select one of the possible rain responses using a result of the comparison; and

wherein the memory is configured to store the selected rain response, the first measured rain quantity, and the first time interval.

21. (New) The sewer network flow analysis system of claim 20,

wherein the processor is further programmed to accept, from the rain gauge, data representative of a second measured rain quantity at a first location over a third time interval; and

wherein the processor is further programmed to calculate a scaled rain response, the scaled rain response comprising a function of the selected rain response and the second measured rain quantity; and

wherein the processor is further programmed to report, in real time, the scaled rain response.

22. (New) The sewer network flow analysis system of claim 21, wherein the second location is a location within a sewer network, and wherein the processor is further programmed to calculated the scaled rain response using no additional data relating to either the sewer network or any substance flowing within the sewer network.

23. (New) The sewer network flow analysis system of claim 21,

the processor being further programmed to convert the measured flow distribution into data representative of a measured flow at the second location, and to subtract a baseline flow from the measured flow to obtain a result comprising data representative of an adjusted flow, wherein the baseline flow corresponds to a non-precipitation event; and

the processor being further programmed to compare the adjusted flow to the selected rain response to determine whether the adjusted flow substantially corresponds to the selected rain response.

24. (New) The sewer network flow analysis system of claim 23,

wherein, when the processor determines that the adjusted flow does not substantially correspond to the selected rain response, the processor is further programmed to report an alert.

25. (New) The sewer network flow analysis system of claim 20, wherein the processor is further programmed to select one of the possible rain responses by performing a goodness of fit test on the measured flow volume distribution and the plurality of possible rain responses.

26. (New) The sewer network flow analysis system of claim 20, wherein the processor is further programmed to graphically represent the selected rain response as a curve on

a graph on which a y-axis represents at least one of inflow and infiltration and an x-axis represents time.

27. (New) The sewer network flow analysis system of claim 20, wherein the duration of the first time interval is shorter than a duration of a corresponding precipitation event.